REMARKS

Claims 13-24 are now pending in the above-referenced application and are submitted for the Examiner's reconsideration.

The Examiner objected to the drawings based on various issues. In view of the amendments to the drawings, Applicants submit that this objection has been obviated. Claims 13, 17, 19, 21, and 23 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over United States Patent No. 5,752,493 to Abe et al. ("Abe") in view of United States Patent No. 5,246,562 to Weyl et al. ("Weyl"). Abe describes a method for heating up a sensor element to a predefined temperature, e.g., 710 degrees Celsius. The power by which the heater is operated is adjusted as a function of the coolant temperature and the time elapsed since the engine was started (column 2, lines 38-41). In addition, the heater is operated in such a manner, that a specific heater resistance is not exceeded. By this means, the heater does not exceed a predetermined limit temperature, e.g. 1100 degrees Celsius, since the heater would otherwise be damaged by the high temperature (column 2, lines 42 through 50; column 4, lines 56 through 65).

The method described by Abe allows a sensor element to rapidly heat up independently of the external condition, it being ensured that the heater is not overheated (column 2, lines 12 through 18). If the required operating temperature is reached, then the sensor element is kept at this operating temperature (column 1, lines 23 through 29). Abe does not at all allude to the sensor element being heated to a temperature above the normal operating temperature (of, e.g. 710 degrees Celsius). In this connection, one must distinguish between the temperature of the sensor element, which is necessary for the measuring functionality of the sensor element and is, for example, 710 degrees Celsius in the regions of the sensor element relevant to the measurement, and the temperature of the heater itself. The temperature of the heater fluctuates as a function of the heating power necessary for heating the sensor element and should be in the range of 600 to 1100 degrees Celsius after the starting phase.

It should be pointed out that, according to Abe, the sensor element is heated to an operating temperature of over 650 degrees Celsius, in order to allow the oxygen concentration to be measured (column 1, lines 23 through 29). In order to compensate for manufacturing inaccuracies, the simpler embodiment provides for the sensor element to be heated to a setpoint temperature of 710 degrees Celsius (column 5, lines 22 through 27). However, (along the lines of Claim 13,) this temperature cannot be sufficient for igniting the thermal afterburning of unburned components of the exhaust gas. This results from the fact

Amendments to the Drawings:

The attached sheets of drawings include changes to Figure 1. Applicants have changed these drawings by adding descriptive label 3'' and deleting reference characters 36 through 38.

that, at 710 degrees Celsius, the sensor element is used for measuring the air-fuel ratio, i.e. the oxygen concentration. If thermal afterburning were to take place at 710 degrees Celsius, then the oxygen concentration would not be able to be measured, since the afterburning consumes oxygen, thereby no longer allowing the oxygen concentration of the exhaust gas to be determined.

Therefore, Abe does disclose heating the sensor element to a first temperature for measuring the exhaust gas, but it does not at all allude to heating the sensor element to a (higher) second temperature, which is sufficient for igniting the thermal afterburning of unburned components of the exhaust gas. Moreover, Weyl does not overcome these deficiencies in Abe.

As for the other rejections, since the references relied on in those rejections also do not overcome the above-noted shortcomings of Abe, withdrawal of these other rejections is respectfully requested as well.

It is respectfully submitted that the subject matter of the present application is new, non-obvious, and useful. Prompt consideration and allowance of the application are respectfully requested.

Respectfully submitted,

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Dated: 3/10/05

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